Microsemi Corp.
The diode experts

SANTA ANA, CA

SCOTTSDALE, AZ
For more information call:
(602) 941-6300

5KP5.0 thru 5KP110A

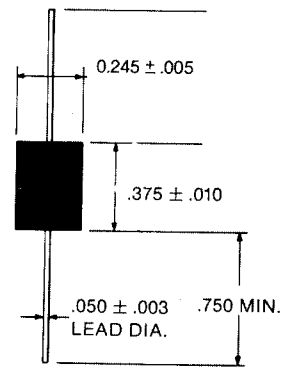
TRANSIENT ABSORPTION ZENER

FEATURES

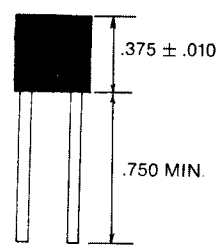
Designed for use on the output of switching power supplies, voltage tolerances are referenced to the power supply output voltage level.

MAXIMUM RATINGS

5000 Watts of Peak Pulse Power dissipation at 25°C for 10 x 1000μsec pulse
Clamping time (0 volts to $V_{(BR)}$ min): Less than 1 x 10^{-12} seconds
Operating and Storage temperature: -55° to +150°C
Steady State power dissipation: 5.0 watts @ T_L = 25°C
Repetition rate (duty cycle): .05%



CASE 5A



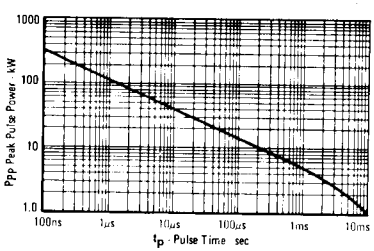


FIGURE 1
PEAK PULSE POWER VS. PULSE TIME TO 50% OF EXPONENTIALLY DECAYING PULSE

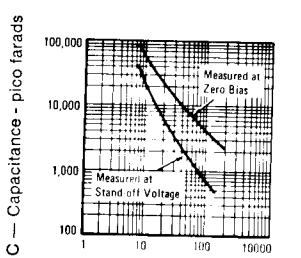
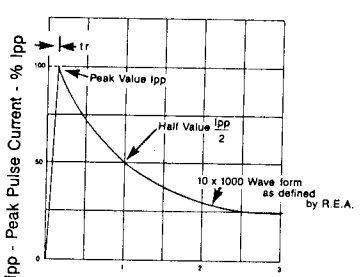
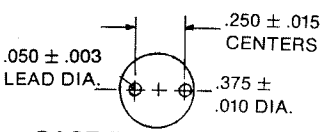


FIGURE 2
TYPICAL CAPACITANCE VS. BREAKDOWN VOLTAGE



Test waveform parameters
t_r = 10μsec.
t_p = 1000μsec.

FIGURE 3
PULSE WAVEFORM



CASE 5R

MECHANICAL CHARACTERISTIC

CASE: Void free molded thermo-setting plastic.
FINISH: Silver plated copper readily solderable.
POLARITY: Band/dot denotes cathode. Bidirectional not marked.
WEIGHT: 0.2 grams.
MOUNTING POSITION: Any.

5KP5.0 thru 5KP110A

ELECTRICAL CHARACTERISTICS @ 25°C

MICROSEMI PART NUMBER	REVERSE STAND-OFF VOLTAGE (Note 1) V_{WM} VOLTS	BREAKDOWN VOLTAGE @ $V_{(BR)}$ VOLTS	I_T mA	MAXIMUM CLAMPING VOLTAGE @ I_{PP} (1 mSEC) V_C VOLTS	MAXIMUM REVERSE LEAKAGE @ V_{WM} I_D μA	MAXIMUM PEAK PULSE CURRENT (FIG. 3) I_{PP} A	MAXIMUM VOLTAGE TEMPERATURE VARIATION OF $V_{(BR)}$ mV/°C
5KP5.0	5.0	6.40 - 7.30	50	9.6	2000	520	4.0
5KP5.0A	5.0	6.40 - 7.00	50	9.2	2000	543	4.0
5KP6.0	6.0	6.67 - 8.15	50	11.4	5000	439	4.0
5KP6.0A	6.0	6.67 - 7.37	50	10.3	5000	485	4.0
5KP6.5	6.5	7.22 - 8.82	50	12.3	2000	407	4.0
5KP6.5A	6.5	7.22 - 7.98	50	11.2	2000	447	4.0
5KP7.0	7.0	7.78 - 9.51	50	13.3	1000	378	5.0
5KP7.0A	7.0	7.78 - 8.60	50	12.0	1000	417	5.0
5KP7.5	7.5	8.33 - 10.2	5	14.3	250	350	6.0
5KP7.5A	7.5	8.33 - 9.21	5	12.9	250	388	6.0
5KP8.0	8.0	8.89 - 10.9	5	15.0	150	333	6.0
5KP8.0A	8.0	8.89 - 9.83	5	13.6	150	367	6.0
5KP8.5	8.5	9.44 - 11.5	5	15.9	50	314	7.0
5KP8.5A	8.5	9.44 - 10.4	5	14.4	50	347	7.0
5KP9.0	9.0	10.0 - 12.2	5	16.9	20	295	8.0
5KP9.0A	9.0	10.0 - 11.1	5	15.4	20	325	8.0
5KP10	10	11.1 - 13.6	5	18.8	15	266	9.0
5KP10A	10	11.1 - 12.3	5	17.0	15	294	9.0
5KP11	11	12.2 - 14.9	5	20.1	10	249	10
5KP11A	11	12.2 - 13.5	5	18.2	10	274	10
5KP12	12	13.3 - 16.3	5	22.0	10	227	11
5KP12A	12	13.3 - 14.7	5	19.9	10	251	11
5KP13	13	14.4 - 17.6	5	23.8	10	210	12
5KP13A	13	14.4 - 15.9	5	21.5	10	232	12
5KP14	14	15.6 - 19.1	5	25.8	10	194	13
5KP14A	14	15.6 - 17.2	5	23.2	10	215	13
5KP15	15	16.7 - 20.4	5	26.9	10	188	15
5KP15A	15	16.7 - 18.5	5	24.4	10	206	15
5KP16	16	17.8 - 21.8	5	28.8	10	176	18
5KP16A	16	17.8 - 19.7	5	26.0	10	192	16
5KP17	17	18.9 - 23.1	5	30.5	10	164	19
5KP17A	17	18.9 - 20.9	5	27.6	10	181	18
5KP18	18	20.0 - 24.4	5	32.2	10	155	20
5KP18A	18	20.0 - 22.1	5	29.2	10	172	19
5KP20	20	22.2 - 27.1	5	35.8	10	139	24
5KP20A	20	22.2 - 24.5	5	32.4	10	154	22
5KP22	22	24.4 - 29.8	5	39.4	10	127	27
5KP22A	22	24.4 - 26.9	5	35.5	10	141	24
5KP24	24	26.7 - 32.6	5	43.0	10	116	30
5KP24A	24	26.7 - 29.5	5	38.9	10	128	27
5KP26	26	28.9 - 35.3	5	46.6	10	107	33
5KP26A	26	28.9 - 31.9	5	42.1	10	119	29
5KP28	28	31.1 - 38.0	5	50.1	10	99	34
5KP28A	28	31.1 - 34.4	5	45.5	10	110	30
5KP30	30	33.3 - 40.7	5	53.5	10	93	38
5KP30A	30	33.3 - 36.8	5	48.4	10	103	35
5KP33	33	36.7 - 44.9	5	59.0	10	85	41
5KP33A	33	36.7 - 40.6	5	53.3	10	94	38
5KP36	36	40.0 - 48.9	5	64.3	10	78	45
5KP36A	36	40.0 - 44.2	5	58.1	10	86	40
5KP40	40	44.4 - 54.3	5	71.4	10	70	50
5KP40A	40	44.4 - 49.1	5	64.5	10	78	45
5KP43	43	47.8 - 58.4	5	76.7	10	65	54
5KP43A	43	47.8 - 52.8	5	69.4	10	72	49
5KP45	45	50.0 - 61.1	5	80.3	10	62	57
5KP45A	45	50.0 - 55.3	5	72.7	10	69	51
5KP48	48	53.3 - 65.1	5	85.5	10	58	62
5KP48A	48	53.3 - 58.9	5	77.4	10	65	55
5KP51	51	56.7 - 69.3	5	91.1	10	55	65
5KP51A	51	56.7 - 62.7	5	82.4	10	61	60
5KP54	54	60.0 - 73.3	5	96.3	10	52	70
5KP54A	54	60.0 - 66.3	5	87.1	10	57	64
5KP58	58	64.4 - 78.7	5	103.0	10	49	77
5KP58A	58	64.4 - 71.2	5	93.6	10	53	69
5KP60	60	66.7 - 81.5	5	107.0	10	47	79
5KP60A	60	66.7 - 73.7	5	96.8	10	52	70
5KP64	64	71.1 - 86.9	5	114.0	10	44	85
5KP64A	64	71.1 - 78.6	5	103.0	10	49	75
5KP70	70	77.8 - 95.1	5	125	10	40	93
5KP70A	70	77.8 - 86.0	5	113	10	44	84
5KP75	75	83.3 - 102.0	5	134	10	37	100
5KP75A	75	83.3 - 92.1	5	121	10	41	90
5KP78	78	86.7 - 106.0	5	139	10	36	104
5KP78A	78	86.7 - 95.8	5	126	10	40	94
5KP85	85	94.4 - 115.0	5	151	10	33	113
5KP85A	85	94.4 - 104.0	5	137	10	36	102
5KP90	90	100 - 122	5	160	10	31	120
5KP90A	90	100 - 111	5	146	10	34	109
5KP100	100	111 - 136	5	179	10	28	134
5KP100A	100	111 - 123	5	162	10	31	122
5KP110	110	122 - 149	5	196	10	26	147
5KP110A	110	122 - 135	5	177	10	28	132

V_f at 100 amps peak, 8.3 ms sine wave equals 3.5 volts maximum.

Note 1: TAZ are normally selected according to the reverse "Stand Off Voltage" V_{WM} which should be equal to or greater than the DC or continuous peak operating voltage level.

Note 2: For bidirectional construction, indicate a C or CA suffix after the part number.